UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

NXP USA, INC., and NXP B.V., Plaintiffs, v. IMPINJ, INC., Defendant.	CASE NO. 2:20-cv-01503-JHC REDACTED[1] ORDER RE: IMPINJ'S MOTION TO EXCLUDE DAVID A. HAAS AND NXP'S MOTION FOR PARTIAL SUMMARY JUDGMENT

There are two motions before the Court. First, Impinj moves to exclude certain opinions of expert David A. Haas. *See* Dkt. # 296 (Impinj's motion); *see also* Dkt. ## 329, 354, 412, 419 (NXP's response, Impinj's reply, NXP's supplemental brief, and Impinj's supplemental brief).[2] Second, NXP moves for partial summary judgment as to an element of its damages argument.[3]

[1] The Court provisionally sealed its initial order. Dkt. # 452. After hearing from the parties about what material, if any, must remain sealed in the public version of the order (Dkt. # 463), the Court hereby publishes this redacted version of the order.

[2] The Court refers to the sealed version of each filing throughout this order. The unsealed versions (which contain page numbers that correspond to the sealed versions) can be found at the following docket entries: Dkt. ## 286, 323, 349, 410, 417 (filings related to Impinj's motion to exclude); Dkt. ## 277, 316, 340 (filings related to NXP's motion for partial summary judgment).

[3] The Court previously ruled on several other arguments in NXP's partial summary judgment motion (Dkt. ## 380, 414), but deferred ruling on this issue to consider it alongside other damages-related issues. *See* Dkt. # 414 at 35.

See Dkt. # 282 at 27–29 (NXP's motion); *see also* Dkt. ## 319, 343 (Impinj's response and NXP's reply).

For the reasons below, the Court:

(1) GRANTS in part and DENIES in part Impinj's motion to exclude certain opinions of David A. Haas (Dkt. # 296); and

(2) DENIES NXP's partial summary judgment motion as to the damages issue (Dkt. # 282 at 27–29).

I

BACKGROUND

A. Patent Background

Two patents remain at issue in this case. First, U.S. Patent Number 7,257,092 (the '092 Patent) describes an improved communication protocol between a "communication station" and a "data carrier" in which an "identification data block" and "useful data" are transmitted simultaneously, rather than sequentially. *See* '092 Patent at 1:5–8, 11:7–17. Second, U.S. Patent Number 7,347,097 (the '097 Patent) describes a system that allows information to be stored on a data carrier for a longer period of time with higher reliability, produced in part by adding a "voltage-raising means" to the "information-voltage generating means" of the data carrier. *See* '097 Patent at 2:13–23, 2:34–36. A more detailed description of the patents can be found in the Court's recent summary judgment order. *See* Dkt. # 414 at 3–5.

B. Procedural History

This order addresses two motions. First, it addresses Impinj's motion to exclude certain opinions of NXP's damages expert, David A. Haas. *See* Dkt. # 296. While styled as a *Daubert*-style evidentiary motion, the motion raises questions of law and fact that could be addressed only in a motion for summary judgment. The Court informed the parties that it would treat the motion

as one for partial summary judgment and would allow the parties to provide supplemental briefing. *See* Dkt. # 397; *see also* Fed. R. Civ. P. 56(f) (requiring notice and a "reasonable time to respond" before considering summary judgment sua sponte); *Norse v. City of Santa Cruz*, 629 F.3d 966, 971–72 (9th Cir. 2010) ("Sua sponte grants of summary judgment are only appropriate if the losing party has reasonable notice that the sufficiency of his or her claim will be in issue." (citation omitted)). Pursuant to the Court's order, the parties provided additional briefing. Dkt. # 412 (NXP's supplemental brief); Dkt. # 419 (Impinj's supplemental brief). The Court applies the summary judgment standard in evaluating the motion.

Second, this order addresses one remaining argument from NXP's motion for partial summary judgment: whether, for purposes of damage calculations, there were acceptable, non-infringing alternatives available to Impinj. Dkt. # 282 at 26–29. While the Court already ruled on most aspects of NXP's motion for partial summary judgment, the Court reserved ruling on this issue to consider it alongside other damages-related issues. Dkt. # 414 at 35.[4]

II

Motion To Exclude Opinions of David A. Haas

Impinj moves to exclude certain opinions of NXP's damages expert, David A. Haas. Dkt. # 296. As noted above, however, the Court analyzes the issues in the motion under the applicable summary judgment standards.

The motion raises four issues: (1) whether NXP is entitled to pre-suit damages stemming from infringement of the '097 Patent; (2) whether NXP is entitled to recover damages stemming

[4] The Court notes that there are two other summary judgment motions pending. Dkt. ## 421, 430. Nothing in this order should be construed to express any opinion as to the merits of either motion. Also, the order at times assumes infringement *arguendo* so that the Court can discuss damages. Any such language should not be read to imply that Impinj has infringed any patent: To date, there has been no finding of infringement in this case.

from Impinj's sales to customers outside the United States; (3) whether NXP USA has standing to obtain damages; and (4) whether NXP may recover "lost profit" damages.

A. Availability of Pre-Suit Damages

NXP seeks pre-suit damages for infringement of the '097 Patent.[5] Dkt. # 296 at 6–8. Impinj asks the Court to exclude Haas's opinions about the availability of pre-suit damages. *Id.* The Court denies Impinj's motion.

35 U.S.C. § 287(a) imposes a "marking" obligation on any patentee who produces a patented product: A patentee must generally mark each patented product with the word "patent" or something similar (the exact marking requirements are unimportant here). A failure to mark can affect the patentee's right to pre-suit damages. If a patentee fails to mark its patented products in accordance with the statute, "no damages shall be recovered by the patentee in any action for infringement, except on proof that the infringer was notified of the infringement and continued to infringe thereafter, in which event damages may be recovered only for infringement occurring after such notice." 35 U.S.C. § 287(a).

But the statute does not apply if the patentee "never makes or sells a patented article." *Arctic Cat Inc. v. Bombardier Recreational Prod. Inc.*, 950 F.3d 860, 864 (Fed. Cir. 2020); *see also id.* ("[A] patentee who never makes or sells a patented article may recover damages even absent notice to an alleged infringer."). "If, however, a patentee makes or sells a patented article and fails to mark in accordance with § 287, the patentee cannot collect damages until it either begins providing notice or sues the alleged infringer—the ultimate form of notice—and then only for the period after notification or suit has occurred." *Id.* "A patentee who makes or sells

[5] NXP appears to concede that it is not entitled to pre-suit damages for the '092 Patent. *See* Dkt. # 296 at 7; Dkt. # 329 at 8 (NXP's brief discussing the issue only with respect to the '097 Patent).

patented articles can satisfy the notice requirement of § 287 either by providing constructive notice—*i.e.*, marking its products—or by providing actual notice to an alleged infringer." *Id.*

According to NXP, it is entitled to pre-suit damages for the period *before* its marking obligation arose—that is, before it began selling the UCODE 8 product, which practices the '097 Patent. NXP says that the pre-suit damages period runs from October 4, 2013, through October 4, 2019 (when this action was filed). *See* Dkt. # 329 at 9 (citing 35 U.S.C. § 286). But NXP only began selling the UCODE 8 product in 2017. So NXP says that it is entitled to pre-suit damages from 2013 (the beginning of pre-suit damages period) until it began selling (presumably unmarked) UCODE 8 products in 2017.

Impinj disagrees. Dkt. # 296 at 6–8. According to Impinj, the Federal Circuit's decision in *Arctic Cat* holds that, if at any time, a patentee sells an unmarked product (and does not otherwise provide notice), the patentee may not recover any pre-suit damages.

Arctic Cat does not squarely answer the question presented. In *Arctic Cat*, the patentee sold unmarked, practicing products, but then stopped selling any practicing products. 950 F.3d at 864. The Court held that the "cessation of sales of unmarked products" does not "excuse[] noncompliance with the notice requirement of § 287 such that a patentee may recover damages for the period after sales of unmarked products ceased but before the filing of a suit for infringement." *Id.*

But here, the opposite sequence of events occurred. NXP did not sell any product practicing the '097 Patent for several years (from roughly 2013 through 2017). It then began selling practicing UCODE 8 products but failed to mark them. While *Arctic Cat* clearly precludes pre-suit damages when a patentee sells unmarked products and then stops such sales, it is not clear that *Arctic Cat* should be read to cover the opposite sequence of events.

In *Arctic Cat*, the Federal Circuit stated that the "obligation to mark arose when [the entity] *began* selling patented articles." 950 F.3d at 865 (emphasis added). The court also emphasized that "once a patentee begins making or selling a patented article, *the notice requirement attaches*, and the obligation imposed by § 287 is discharged only by providing actual or constructive notice." *Id.* (emphasis added). These passages imply that *before* the patentee begins making or selling a patented product, the notice requirement has *not yet attached.* Before the notice requirement attaches, the patentee has done nothing wrong; it has no obligation to mark. It would be odd to penalize NXP for its actions from 2013 to 2017 (before it had an obligation to mark) because of its failure to mark beginning in 2017. As the Federal Circuit explained, "[t]he statute thus prohibits a patentee from receiving any damages in a subsequent action for infringement *after* a failure to mark." *Id.* (emphasis added). As the Court understands the Federal Circuit's *Arctic Cat* decision, a failure to mark does not work retroactively to preclude pre-suit damages for a period before any such marking obligation arose.

Several district court decisions support this conclusion (though some predate *Arctic Cat*). *See, e.g.*, *Acceleron, LLC v. Dell, Inc.*, No. 1:12-CV-4123-TCB, 2020 WL 10353773, at *3 (N.D. Ga. Mar. 31, 2020) (post-*Arctic Cat*, holding that pre-suit damages are available for the period "before . . . the duty to mark" arose because "any failure to mark does not preclude all pre-suit damages"); *WiAV Sols. LLC v. Motorola, Inc.*, 732 F. Supp. 2d 634, 639–40 (E.D. Va. 2010) ("[A] patentee is not precluded from collecting damages for a period in which marking was not required even if the requirements of the marking statute were later triggered and the patentee failed to comply."); *Am. Tech. Ceramics Corp. v. Presidio Components, Inc.*, 14-CV-6544(KAM)(GRB), 2018 WL 1525686, at *5 (E.D.N.Y. Mar. 27, 2018) (§ 287 "does not limit damages for a period during which the marking statute is not triggered, even if it later is triggered and the patentee fails to mark." (quotation marks omitted)).

To be sure, Impinj's position is reasonable. The Federal Circuit construes § 287 strictly to effectuate the policy goal of encouraging marking. *See, e.g.*, *Arctic Cat*, 950 F.3d at 865 (discussing the policy goals of the marking statute). Precluding all pre-suit damages—even those from before a marking obligation attached—would provide additional incentive to mark. And some of the language in *Arctic Cat* could be read to apply in circumstances like this. *See id.* ("The statute thus prohibits a patentee from receiving *any* damages in a subsequent action for infringement after a failure to mark, rather than merely a reduced amount of damages in proportion to the amount of time the patentee was actually practicing the asserted patent."); *id.* ("While § 287 describes the conduct of the patentee in the present tense, the consequence of a failure to mark is not so temporally limited."). But the Court believes the better reading of *Arctic Cat* and § 287 support NXP's position: § 287 does not preclude pre-suit damages for a period before an obligation to mark attached.

Accordingly, the Court denies Impinj's motion as to the availability of pre-suit damages for the '097 Patent.

B. Damages for Sales to Customers Outside the United States

Impinj argues that Haas may not include in his damages calculations Impinj's sales to customers outside the United States. Dkt. # 296 at 8–10. Though a very close question, the Court denies Impinj's motion.

"[P]atent laws, like other laws, are to be understood against a background presumption against extraterritorial reach." *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1306 (Fed. Cir. 2015); *see also Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1371 (Fed. Cir. 2013) ("It is axiomatic that patent law does not operate extraterritorially to prohibit infringement abroad."). Accordingly, an entity commits direct infringement under 35 U.S.C. § 271(a) when it "makes, uses, offers to sell, or *sells* any patented

invention[] *within the United States* or imports into the United States any patented invention." 35 U.S.C. § 271(a) (emphasis added); *see also MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp.*, 420 F.3d 1369, 1375 (Fed. Cir. 2005) ("It is well-established that the reach of section 271(a) is limited to infringing activities that occur within the United States.").

Case law discussing whether a sale is one "within the United States" for purposes of § 271(a) presents a surprisingly murky picture. The patent statute does not define the term "sale." *See Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 831 F.3d 1369, 1377 (Fed. Cir. 2016). The Supreme Court has stressed that "[i]t is the general rule under United States patent law that no infringement occurs when a patented product is made and sold in another country." *Microsoft Corp. v. AT & T Corp.*, 550 U.S. 437, 441 (2007). But according to the Federal Circuit, no "single, universally applicable fact" determines where a "sale" occurs. *Carnegie Mellon*, 807 F.3d at 1308. While the Federal Circuit has not settled on an exact test to determine whether a sale is one "within the United States," it has explained that relevant locations could include the "place of inking the legal commitment to buy and sell," the "place of delivery," and "perhaps also a place where other 'substantial activities of the sales transactions' occurred." *Id.* (citations omitted).

Impinj argues that its sales to foreign customers are not sales "within the United States" for purposes of § 271(a). Dkt. # 296 at 8–10. This is so, Impinj says, because these products are manufactured and shipped abroad to non-U.S. customers, with no evidence that the products eventually enter the United States. *Id.* at 9. According to Impinj, "Plaintiffs must not only prove that a substantial level of sales activity occurred in the United States, but also that the products sold at some point entered the country." Dkt. # 349 at 7.

NXP responds that a product need not enter the United States to constitute a sale "within the United States" for purposes of § 271(a). *See* Dkt. # 329 at 10–12. Rather, NXP says that the

operative question is whether a "substantial level of sales activity" occurs within the United States, and that this fact-intensive inquiry is reserved for the jury. *Id.* at 10. NXP cites these facts in support of its position:

> It is undisputed that Impinj designed all of the accused products in the United States. The Impinj sales teams responsible for selling the accused products report to Jeff Dossett, Impinj's Chief Revenue Officer, in Seattle. Impinj divides sales efforts related to the accused products across two sales teams, one of which reports to a Senior Vice President in Seattle while the other reports to a different Senior Vice President based in Idaho. Customers enter into distribution agreements with Impinj, Inc., the U.S. company; Impinj's U.S.-based employees negotiate annual pricing agreements with customers, and the agreements are executed in Seattle; and Impinj issues all purchase orders for all accused products from its Seattle headquarters. Impinj tests the accused products in the United States and has a Retail Experience Center located in Seattle where it tests and showcases item connectivity applications. Impinj also has U.S.-based systems engineers who troubleshoot and coordinate with customers. And Impinj's marketing team, led from its Seattle office, prepares all marketing materials.

Dkt. # 412 at 12 (citations omitted) (citing Dkt. # 297-1 at ¶24). Under these facts, NXP says, a reasonable jury could conclude that the disputed sales to customers abroad are sales "within the United States."

The Court tentatively agrees with NXP and concludes that under Federal Circuit precedent, the cited facts raise a triable issue of fact as to whether the accused sales are "within the United States." The Federal Circuit confronted an analogous set of facts in *Carnegie Mellon University v. Marvell Technology Group, Limited*, 807 F.3d 1283 (Fed. Cir. 2015). In that case, the plaintiff presented evidence that "with the exception of the chip making [which occurred abroad]. . . all the activities related to designing, simulating, testing, evaluating, qualifying the chips by Marvell as well as by its customers occur[ ] in the United States," and that each sale was the result of a lengthy domestic sales cycle (also known as a "design win"). *Id.* at 1309 (citation and quotation marks omitted) (second alteration original). There was also "some evidence suggesting that *specific contractual commitments* for specific volumes of chips were made in the

United States." *Id.* (emphasis added). Based on these facts, the Federal Circuit affirmed the district court's denial of judgment as a matter of law, concluding that a reasonable jury could find that the cited evidence "suggests a substantial level of sales activity by Marvell within the United States, *even for chips manufactured, delivered, and used entirely abroad*." *Id.* at 1309–10 (emphasis added). The Federal Circuit remanded for a new trial in which the jury would be instructed that it must "find a domestic location of sale as to those chips not made or used in, or imported into, the United States" before including those sales in the damages calculation. *Id.* at 1310.

In *California Institute of Technology v. Broadcom Limited*, 25 F.4th 976 (Fed. Cir. 2022), the Federal Circuit upheld the district court's jury instruction concerning the "within the United States" requirement. *Id.* at 992–93. According to the Federal Circuit, the jury instructions appropriately "emphasized the key question of whether there were such substantial activities in the United States." *Id.* at 993. The *Broadcom* court seemingly approved of an instruction that allowed a domestic "sales cycle" to transform a sale into one "within the United States" (though the opinion lacks detail about the nature of each sale). *Id.*

Under the reasoning of *Carnegie Mellon* and *Broadcom*, Impinj's sales to customers abroad *might* constitute sales within the United States. Impinj's U.S.-based employees negotiate annual pricing agreements with customers; the Impinj sales team reports to individuals in the United States; purchased orders are "issue[d]" in the United States; and significant testing and marketing activities occur in the United States. *See* Dkt. # 412 at 12 (citing Dkt. # 297-1 at ¶24).

Perhaps most importantly, NXP says that the sale agreements themselves are "executed" in the United States (though neither party explains what this means). *Id.* (citing Dkt. # 297-1 at ¶24). The Federal Circuit seems to place weight on this fact. *See Texas Advanced Optoelectronic Sols., Inc. v. Renesas Elecs. Am., Inc.*, 895 F.3d 1304, 1330 (Fed. Cir. 2018)

(distinguishing *Carnegie Mellon* because in that case, "'there was some evidence suggesting that specific contractual commitments for [the sale of accused products] were made in the United States.' [Plaintiff] presented no such specific evidence to the district court here." (citing *Carnegie Mellon*, 807 F.3d at 1309)); *Carnegie Mellon*, 807 F.3d at 1308 (noting that a place of "seeming relevance" is "a place of inking the legal commitment to buy and sell"). *But see Halo*, 831 F.3d at 1378 n.1 (declining to reach the argument that "the place where a contract for sale is legally formed can itself be determinative as to whether a sale has occurred in the United States because we agree with the district court here that the pricing negotiations and contracting activities in the United States to which Halo points did not constitute the final formation of a definitive, binding contract for sale").

To be sure, the Court remains a tad skeptical that this evidence—which relies heavily on the location in which the contracts were "executed"—suffices to transform sales of goods manufactured and shipped abroad to foreign buyers into sales "within the United States." In *Halo Electronics, Inc. v. Pulse Electronics*, *Inc.,* 831 F.3d 1369 (Fed. Cir. 2016), for example, the Federal Circuit held that domestic "pricing and contracting negotiations" alone did not create a sale within the United States because the products were made and sold abroad and because the "final formation of a contract for sale" took place outside the United States. *Id.* at 1378. Depending on what it means for the contracts to have been "executed" in the United States, the sales at issue could more closely resemble the sales in *Halo* than those in *Carnegie Mellon.* But the Court concludes that NXP has produced sufficient facts to survive summary judgment.

The Court also questions how Federal Circuit case law should be applied in situations like this. As applied to products that are made and shipped abroad to foreign buyers, the approach taken in *Carnegie Mellon* and *Broadcom* is arguably in tension with Supreme Court dicta. *See Microsoft Corp.*, 550 U.S. at 441 ("It is the general rule under United States patent

law that no infringement occurs when a patented product is made and sold in another country." (discussing a different statutory provision)); *see also id.* at 456 ("If AT & T desires to prevent copying in foreign countries, its remedy today lies in obtaining and enforcing foreign patents."); *cf. Morrison v. Nat'l Australia Bank Ltd.*, 561 U.S. 247, 266 (2010) ("[T]he presumption against extraterritorial application would be a craven watchdog indeed if it retreated to its kennel whenever *some* domestic activity is involved in the case."). Moreover, applying the test in this way could transform nearly any sale by a U.S. company into a sale "within the United States"; it could also incentivize companies to "execute" their agreements abroad. Nevertheless, the Court is bound by Federal Circuit case law, and so denies Impinj's motion, subject to further objection during trial and in post-trial motions.[6]

C. Standing of NXP USA

Typically, "[o]nly a patentee may bring an action for patent infringement." *Textile Prods., Inc., v. Mead Corp.*, 134 F.3d 1481, 1484 (Fed. Cir. 1998) (citing 35 U.S.C. § 281). But there is a limited exception to this general rule for "exclusive licensees." Exclusive licensees "may possess sufficient interest in the patent to have standing to sue as a co-plaintiff with the patentee." *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1552 (Fed. Cir. 1995) (en banc). "To be an exclusive licensee for standing purposes, a party must have received, not only the right to practice the invention within a given territory, but also the patentee's express or implied promise that others shall be excluded from practicing the invention within that territory as well." *Id.*; *see*

[6] Impinj also argues that NXP failed to disclose its theory of damages for sales outside the United States in a timely manner. Dkt. # 296 at 8–9. Impinj says that Dr. Madisetti admitted that he had not opined on foreign sales, and that Haas's report disclosed "for the first and only time" that such sales should be treated as occurring within the United States. *Id.* at 8. But Dr. Madisetti was not a damages expert, and thus did not need to opine on the matter. And Haas filed his report in accordance with the Court's scheduling orders, well before discovery closed.

also Spine Sols., Inc. v. Medtronic Sofamor Danek USA, Inc., 620 F.3d 1305, 1318 (Fed. Cir. 2010), *abrogated on other grounds by Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 579 U.S. 93 (2016).

Impinj says that NXP USA lacks standing to recover damages. *See* Dkt. # 296 at 10–11. NXP B.V. is the patentee of the ’092 and ’097 Patents. Therefore, Impinj says, NXP USA lacks standing to bring a patent infringement action unless it is an exclusive licensee. *Id.* And Impinj says that NXP USA is at most a “limited non-exclusive” licensee. *See, e.g.*, *id.* at 11 (citing records stating that NXP USA possesses a “limited, non-exclusive, non-transferable, royalty-free license to use NXP Intellectual Property Rights”). NXP’s response brief does not address this argument or present any contrary evidence. *See generally* Dkt. # 329.

Accordingly, because NXP B.V. is the patentee and NXP USA is not an exclusive licensee, NXP USA lacks standing to collect damages.

D. Lost Profits of NXP B.V. through an “Inexorable Flow” Theory

“Lost profit” damages represent one method of calculating damages stemming from infringement. “To recover lost profits damages, the patentee must show a reasonable probability that, ‘but for’ the infringement, it would have made the sales that were made by the infringer.” *Rite-Hite*, 56 F.3d at 1545.

Impinj concedes that NXP B.V.—the patentholder—has standing to recover damages. Dkt. # 296 at 11. But Impinj says that NXP B.V. cannot recover *lost profit* damages because it does not make or sell any products (and thus could not have lost any profits). *Id.* at 11–15. Impinj says that NXP B.V. is entitled only to a reasonable royalty as damages, if entitled to any damages at all.

NXP responds that NXP B.V. can recover lost profits on an “inexorable flow” theory. NXP says that NXP B.V. can recover damages “stemming from sales lost by its wholly owned

subsidiaries [like NXP USA] to the extent those profits inexorably flowed to NXP B.V." Dkt. # 329 at 13.

In general, "a patentee may not claim, as its own damages, the lost profits of a related company." *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 778 F.3d 1365, 1375 (Fed. Cir. 2015), *vacated on other grounds sub. nom Medtronic Sofamor Danek USA, Inc. v. NuVasive, Inc.*, 577 U.S. 1099 (2016); *see also Poly–America, L.P. v. GSE Lining Tech., Inc.*, 383 F.3d 1303, 1311 (Fed. Cir. 2004) (explaining that related companies "may not enjoy the advantages of their separate corporate structure and, at the same time, avoid the consequential limitations of that structure—in this case, the inability of the patent holder to claim the lost profits of its non-exclusive licensee").

But several courts have recognized an exception to the general rule: When profits "inexorably flow" from a corporate subsidiary to a corporate parent, then—according to some district courts—the patent-owning parent can nevertheless recover lost profits. The Federal Circuit has not squarely answered whether an "inexorable flow" theory can support a claim for lost profit damages. In *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F.3d 1359 (Fed. Cir. 2008), the Federal Circuit concluded that it "need not decide whether a parent company can recover on a lost profits theory when profits of a subsidiary actually *do* flow inexorably up to the parent." *Id.* 1367. Even if such a theory could support lost profit damages, the *Mars* court concluded that the plaintiff did not present sufficient evidence that the subsidiary's profits did, in fact, flow to the parent company.

District courts have divided on the viability of an inexorable flow theory. Some courts have held that when profits inexorably flow from a subsidiary entity to a parent entity, the parent entity may recover lost profit damages. *See, e.g.*, *Kaneka Corporation v. Designs for Health, Inc.*, No. 32-309-WCB (D. Del. Mar. 3, 2023) (Bryson, J.) (available at Dkt. # 376-1); *In re*

Biogen '755 Pat. Litig., No. 10-2734 (CCC)(JBC), 2018 WL 3586271, at *19 (D.N.J. July 26, 2018); *Callaway Golf Co. v. Achushnet Co.*, 691 F. Supp. 2d 566, 575 (D. Del. 2010). Other district courts have come to the opposite conclusion as the Federal Circuit has not expressly ratified such a theory. *See, e.g.*, *Mars, Inc. v. Trurx LLC, No. 6:13-CV-526-RWS-KNM*, 2016 WL 4034803, at *5–6 (E.D. Tex. Mar. 14, 2016), *report and recommendation adopted*, No. 6:13-CV-526-RWS-KNM, 2016 WL 4061981 (E.D. Tex. Apr. 29, 2016); *Copperhead Indus., Inc. v. Changer & Dresser, Inc.*, No. 1:18-CV-01228-ACA, 2020 WL 429485, at *2 (E.D. Ala. Jan. 28, 2020).

Assuming without deciding that a patentee may recover the lost profits of its wholly owned subsidiary on an inexorable flow theory, the Court nevertheless grants Impinj's motion and holds that NXP may not recover lost profits.

NXP's disclosure of its "inexorable flow" damages theory was untimely. Federal Rule of Civil Procedure 26 requires parties to provide a "computation of each category of damages claimed by the disclosing party." Fed. R. Civ. P. 26(a)(1)(A)(iii). Even if this language is read not to require a disclosure of a particular *theory* of damages and supporting facts, Impinj served an interrogatory requesting that very information. Interrogatory No. 2 states:

> State the complete factual basis for Your contention that NXP is entitled to monetary damages, including the specific amount of money that You contend that Impinj owes NXP as a result of the infringement alleged in Your Infringement Contentions, the bases for Your damages calculations, including, without limitation the identification of each damages theory that You contend should be used in the damages calculation (e.g. reasonably royalty, lost profits, etc.), the specific inputs that You contend should be used under each such damages calculation (e.g., royalty rate on net sales), the apportionment of any royalty or sales base to conform to the value of the accused features, the date(s) on which You contend damages should begin (and the factual bases supporting such dates), the amount of damages attributable to each of the Accused Impinj Products.

Dkt. # 287-12 at 6–7.

NXP's initial response (May 13, 2021) did not provide any responsive information. *Id.* NXP's first supplemental response (October 24, 2022) incorporated by reference a report by expert David A. Haas and identifies several documents, but otherwise did not indicate that NXP intended to rely on an "inexorable flow" theory of lost profit damages. *Id.*

NXP served Haas's expert report on November 23, 2022. Dkt. # 297-1. In Haas's report, NXP repeatedly referred only to the lost profits of NXP USA. For example, Haas stated that "it is [his] opinion that a finding of infringement . . . would support *NXP USA*'s entitlement to lost profit damages." Dkt. # 297-1 at 45 (emphasis added); *id.* at 54 (stating that he conducted analysis "to quantify the amount of profit that *NXP USA* would have made had it captured additional sales of its UCODE products during the defined damages period." (emphasis added)). Mr. Haas did not mention any damages theory based on an "inexorable flow" of profits, or that NXP B.V. (rather than NXP USA or NXP as a whole) sought to recover lost profits.

On December 30, 2022—the day discovery closed—NXP apparently changed course. In a supplemental response to Interrogatory No. 2, NXP disclosed (for what appears to be the first time) its intent to rely on an "inexorable flow" theory to recover NXP B.V.'s lost profits. *See* Dkt. # 287-12 at 8. In that supplemental response, NXP stated "that NXP USA is an indirect subsidiary of NXP B.V. Profits derived from sales of the UCODE products by NXP entities, including NXP USA, inexorably flow to NXP B.V. As a result, NXP B.V. has been inevitably injured by UCODE sales lost due to Impinj's infringement." [7] *Id.* That same day, Haas asserted in a deposition that the use of "NXP USA" in his report was merely an "oversight" and that his

[7] The supplemental response also stated that NXP "incorporates by reference the Opening Expert report of David A. Haas" and "prior and forthcoming deposition testimony by NXP's 30(b)(6) witnesses." Dkt. # 287-12 at 8. As mentioned, Haas's opening report did not discuss any "inexorable flow" theory, and it does not appear that either of NXP's 30(b)(6) witnesses provided such testimony before this disclosure.

actual opinion is that "either or both of [NXP USA and NXP B.V.] are entitled to lost profits." Dkt. # 297-2 at 11.

This disclosure was untimely. Rule 26 requires that a party timely supplement any discovery response "if the party learns that in some material respect the disclosure or response is incomplete or incorrect" or if the information "has not otherwise been made known to the other parties during the discovery process." Fed. R. Civ. P. 26(e)(1)(A). NXP disclosed its "inexorable flow" theory on the last day of discovery. But NXP has given no reason to believe that it could not have done so earlier—when it initially filed its complaint on October 4, 2019; when it served its responses to Interrogatory No. 2 on May 13, 2021, and October 24, 2022; or when it served Haas's expert report on November 23, 2022. Indeed, Impinj impliedly pointed out the flaw in this Haas's theory on December 8, 2022, when Impinj produced the rebuttal expert report of expert Lauren R. Kindler. In that report, Impinj said that "Mr. Haas's lost profits opinions appear to be based on *NXP USA*'s lost sales (and associated lost profits)." Dkt. # 287-11 at 93 (emphasis in original). And elsewhere in that report, Impinj explained that NXP USA can recover damages only if it is an exclusive licensee (which it is not). *Id.* at 6 n.5. NXP provides no explanation for its decision to wait until December 30, 2022 to disclose the theory.[8]

Nor is the Court persuaded that the disclosure was timely because the information was technically disclosed within the discovery period (on the last day). The Federal Circuit has explained that "contention interrogatories . . . 'serve an important purpose in helping to discover facts supporting the theories of the parties. Answers to contention interrogatories also serve to narrow and sharpen the issues thereby confining discovery and simplifying trial preparation.'"

[8] To be clear, the Court does not attribute any bad faith to NXP's omissions. But a party must timely disclose its evidence and theories in manner sufficient to give the opposing party a meaningful opportunity to respond. NXP's last-minute disclosure does not satisfy that obligation.

MLC Intell. Prop., LLC v. Micron Tech., Inc., 10 F.4th 1358, 1372 (Fed. Cir. 2021) (citing *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1272, 1280 (Fed. Cir. 2012)). NXP argues that "Impinj . . . cites no caselaw or rule requiring a plaintiff to spell out every detail of its damages theory in contentions." Dkt. # 412 at 14. But Impinj does not complain merely of a lack of detail—it complains that NXP failed to disclose the fundamental basis on which it sought to recover lost profit damages. And while theories of liability may evolve over time, parties may not wait until the last day of discovery before disclosing novel theories of liability, depriving the opposing party of a meaningful opportunity to develop facts and legal arguments in response. This is particularly so when the theory is unexpected, novel, or particularly complex (like NXP's "inexorable flow" theory of damages).

This case is analogous to *Ingenco Holdings, LLC v. Ace Am. Ins. Co.*, 921 F.3d 803 (9th Cir. 2019), a case cited favorably by the Federal Circuit in *MLC Intell. Prop., LLC v. Micron Tech., Inc.*, 10 F.4th 1358 (Fed. Cir. 2021). In *Ingenco*, "the district court did not permit Ingenco 'to rely upon any computation or evidence of their [damages claims] beyond that provided in their initial disclosures' for failing to produce these damages theories until the day before discovery cutoff at a Rule 30(b)(6) deposition.'" *MLC*, 10 F.4th at 1371 (citing *Ingenco Holdings, LLC v. Ace American Insurance Co.*, No. C13-543, 2016 WL 4703758, at *2, *5 (W.D. Wash. Sept. 7, 2016)). "The Ninth Circuit affirmed this exclusion, explaining that because Ingenco failed to respond to Ace's interrogatory requesting this damages information, and because Rule 26(a)(1)(A)(iii) requires timely disclosure of damages information, the district court properly excluded the damages information under Rule 37." *Id.* (citing *Ingenco*, 921 F.3d at 821–22). Similarly, NXP's failure to disclose its "inexorable flow" damages theory in its initial disclosures, interrogatory responses, or by other means until the last day of discovery was improper. This justifies exclusion under Rule 37.

There are also issues with the evidence NXP proffers in support of its inexorable flow theory of damages. In its initial briefing, NXP pointed to only two facts to support its inexorable flow theory: (1) that NXP USA is a wholly owned subsidiary of NXP B.V., and (2) that [redacted] Dkt. # 329 at 15.

This evidence is insufficient to support an inexorable flow theory of lost profit damages. As the Federal Circuit held in *Mars*, a parent-subsidiary relationship is not enough to show that profits inexorably flow from the subsidiary to the parent—a parent and subsidiary could have any number of different financial relationships, not all of which involve the flow of profits (and losses) to the parent. *See Kowalski v. Mommy Gina Tuna Res.*, 574 F. Supp. 2d 1160, 1163 (D. Haw. 2008) ("Mere ownership and control is insufficient to prove that profits flowed inexorably from a subsidiary to a parent."). For the same reason, it is not enough that the two entities share a [redacted] Even [redacted] (Dkt. # 333-4 at 6), it does not follow that NXP USA's profits (and losses) necessarily flow to NXP B.V. *See Illinois Tool Works, Inc. v. Seattle Safety, LLC*, 2010 WL 11523620, at *13 (W.D. Wash. Oct. 13, 2010) (holding that managing "pooled bank accounts into which [subsidiary's] revenues . . . are swept automatically at the end of each business day . . . is not the same as inexorably receiving [its] profits"); *Edgewell Pers. Care Brands, LLC v. Munchkin, Inc.*, No. CV183005PSGJPRX, 2022 WL 18932811, at *17 (C.D. Cal. July 6, 2022) (finding "statement [that] is no different than the 'consolidated financial statements' and 'pooled bank accounts' previously rejected by the Federal Circuit and another court" insufficient to prove an inexorable flow of profits (citation omitted)).

However, in connection with its supplemental brief, NXP filed a declaration from NXP executive (and Rule 30(b)(6) witness) Srinath Rajen. *See* Dkt. # 412-2. Among other things, Rajen declared that [redacted] *Id.* at 4.

But as with NXP's disclosure of the theory as a whole, it appears that NXP's reliance on the payment of a dividend to support such a theory was not timely disclosed. NXP does not mention the payment of a dividend from NXP USA to NXP B.V. in any expert report or interrogatory response; nor is there evidence before the Court indicating that evidence supporting such a dividend (e.g., financial records) was disclosed during discovery. What's more, reliance on a dividend payment to support NXP's theory is at least in tension with NXP's responses during various depositions. *See generally* Dkt. # 419-1. For example, Rajen (NXP's Rule 30(b)(6) witness) testified during his recent deposition that profits flowed between NXP USA and NXP B.V., but did not mention the payment of a dividend in response to those particular questions. *See* Dkt. # 412-1 at 5–7.[9] In a deposition taken in connection with the co-pending litigation, Rajen implied that no NXP entity other than NXP USA receives revenue or profit from NXP USA's sales of UCODE products. *See* Dkt. # 297-5 at 5 [redacted]

[9] Rajen only mentioned a "dividend" when describing his own job duties: He noted that he is responsible for "sign[ing] off dividends that are distributed to . . . NXP B.V." Dkt. # 412 at 4. But when asked specifically about how profits inexorably flow to NXP B.V., Rajen did not mention a dividend (nor is a dividend mentioned elsewhere in the excerpted transcript before the Court). *See* Dkt. # 412-1 at 5–8.

[redacted] Taken together, Impinj lacked adequate notice of NXP's intent to rely on an inexorable flow theory and on a dividend payment as evidence.

As a final note, the Court observes that even if timely disclosed, there are at least questions about the sufficiency of the evidence provided by NXP. For example, NXP concedes that it does [redacted] Dkt. ## 412-1 at 6, 412-2 at 4. Without any further information about the dividend, it is difficult to see how a jury could reasonably calculate the portion of the dividend attributable to NXP's competing products, rather than NXP's products as a whole. *Cf. Warsaw,* 778 F.3d at 1377 (critiquing the lack of evidence about "what percentage of the true-up[] [payments] was attributable to those payments as opposed to payments on unrelated transactions"). The declaration is vague, providing no explanation about how the dividend is calculated or any supporting evidence about the dividend.[10] This lack of detail is particularly troubling because NXP B.V. is *itself* a subsidiary of yet another company, NXP Semiconductors N.V. Dkt. ## 412-2 at 4, 419 at 8. NXP provides no meaningful explanation as to whether the profits that purportedly flow from NXP USA to NXP B.V. then *further* flow to NXP Semiconductors N.V.[11]

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[10] Moreover, this prevents Impinj from knowing the scope of the damages NXP seeks.

[11] Even if NXP's disclosures were both timely and sufficient, the Court would still be inclined to limit NXP's lost profit damages to sales made to customers *within* the United States. In the co-pending Texas litigation, NXP has conceded that NXP USA does not generally engage in sales to customers outside the United States. *See* Dkt. # 297-5 at 3 [redacted] Accordingly, to the extent that NXP B.V. seeks to recover the lost profits of NXP USA, it appears NXP B.V. could only recover for sales that NXP USA allegedly would have made within the United States but-for Impinj's infringement.

In conclusion, NXP may not pursue a lost profit damages theory at trial.

III

NXP's Motion for Partial Summary Judgment on Availability of Acceptable, Non-Infringing Alternatives

NXP moves for partial summary judgment on one element of its damages claim: the availability of acceptable, non-infringing alternatives. Dkt. # 282 at 26 (arguing that Impinj cannot demonstrate the existence of actual, non-infringing alternatives that "(1) were "available to Impinj; and (2) acceptable to its customers during the damages period" (citing *Smart Skins LLC v. Microsoft Corp.*, No. C15-544-MJP, 2016 WL 4148091, at *2 (W.D. Wash. July 1, 2016))).

The motion addresses the issue with respect to three patents: the '092 Patent, the '097 Patent, and the '951 Patent. *Id.* at 26–30. But the Court has since granted Impinj's motion for a judgment of non-infringement of the '951 Patent (Dkt. # 414 at 26–30), so the Court considers this issue only with respect to the '092 and '097 Patents. The Court previously reserved ruling on this issue to consider it alongside other damages issues. *See* Dkt. # 414 at 35. The Court now addresses the issue and denies NXP's motion.

A. Background

There are two main ways to calculate damages stemming from patent infringement: "lost profit" damages and "reasonable royalty" damages. *See Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed. Cir. 2009) ("Two alternative categories of infringement compensation are the patentee's lost profits and the reasonable royalty he would have received through arms-length bargaining.").

A common thread between the two damage-calculation methods is that for both methods, courts and juries must consider the availability of acceptable, non-infringing alternatives to the

patented invention. When calculating lost profits, the Federal Circuit often relies on the "*Panduit* test."[12] One of the four *Panduit* factors asks whether there is an "absence of acceptable non-infringing alternatives." *Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1285 (Fed. Cir. 2017) (citing *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978)). Under this factor, "the patentee may prove either that the potential alternative was not acceptable to potential customers or was not available at the time." *Presidio Components, Inc. v. Am. Tech. Ceramics Corp.*, 875 F.3d 1369, 1380 (Fed. Cir. 2017). This factor is critical. If an acceptable, non-infringing alternative was available to the defendant, then it becomes less reasonable to assume that the plaintiff would have made the sale "but-for" the defendant's infringement—the defendant could simply sell a non-infringing alternative rather than "leave the market altogether." *Grain Processing Corp. v. Am. Maize-Prod. Co.*, 185 F.3d 1341, 1350–51 (Fed. Cir. 1999). The Federal Circuit has observed that "[t]he second factor, absence of acceptable non-infringing alternatives, often proves the most difficult obstacle for patent holders." *Mentor*, 851 F.3d at 1286.

Similarly, when calculating a reasonable royalty rate, courts often ask whether "an infringer can easily design around a patent and replace its infringing goods with non-infringing goods." *AstraZeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1334 (Fed. Cir. 2015); *see also* Dkt. # 391 at 22 (NXP confirming at oral argument that "as part of the *Georgia-Pacific* factors [often used to calculate a reasonable royalty rate], one of the *Georgia-Pacific* factors addresses noninfringing alternatives"). If there are available, non-infringing alternatives to the infringing

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[12] As noted above, the Court concludes that NXP is not entitled to lost profit damages. But the Court nevertheless relies on lost profit case law discussing non-infringing alternatives because it seems that the same analysis applies in the reasonable royalty context. The parties do not indicate any analytical differences between the two contexts in their briefs.

product, “the hypothetical royalty rate for the product is typically low.” *AstraZeneca*, 782 F.3d at 1334.

A product can serve as an alternative to the infringing product only if it would have been “acceptable” to customers. This requires courts and juries to assess whether there is demand for the patented feature(s) of the invention. *See Mentor*, 851 F.3d at 1285 (“The second factor—the absence of non-infringing alternatives—considers demand for particular limitations or features of the claimed invention.” (citing *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1331 (Fed. Cir. 2009)). If consumers purchase the defendant’s infringing product because of the patented feature, it is unlikely that a non-infringing alternative would be acceptable to consumers. *See Standard Havens Prod., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1373 (Fed. Cir. 1991) (“[T]o prove that there are no acceptable noninfringing substitutes, the patent owner must show either that (1) the purchasers in the marketplace generally were willing to buy the patented product for its advantages, or (2) the specific purchasers of the infringing product purchased on that basis.”). Conversely, if consumers are indifferent to the patented feature, then they would likely accept a non-infringing alternative.

An alternative must also be “available” to the defendant at the time of the alleged infringement. To constitute a non-infringing alternative, the proposed alternative must either have been (1) “on the market” or (2) otherwise “readily available” to the infringer during the infringement period. *See Micro Chem., Inc. v. Lextron, Inc.*, 318 F.3d 1119, 1122 (Fed. Cir. 2003) (quotation marks omitted). “In determining whether the alternative product is available, the court may consider whether (1) the defendant could readily obtain all of the material needed to implement the non-infringing alternative; (2) the non-infringing alternative was well known in the field at the time of infringement; and (3) the defendant had all of the necessary equipment, know-how, and experience to use the non-infringing alternative.” *TQP Dev., LLC v. Merrill*

Lynch & Co., No. 08–471, 2012 WL 3283354, at *1 (E.D. Tex. Aug. 10, 2012) (quotation marks omitted). And when a substitute is "not actually sold during the period of infringement," the court "must proceed with caution in assessing proof of the availability." *Grain Processing*, 185 F.3d at 1353.

B. '092 Patent Non-Infringing Alternatives

NXP argues that Impinj has failed to demonstrate a genuine issue of fact as to whether an acceptable, non-infringing alternative to the '092 Patent was available to Impinj. Dkt. # 282 at 27–28. The Court disagrees.

Impinj has presented sufficient evidence of the existence of an acceptable, non-infringing alternative to survive summary judgment. Impinj's technical expert, Dr. Kenney, opined that "the most obvious alternative [to Impinj's 'FastID' protocol] is to have the EPC and TID returned in separate communications." Dkt. # 295-3 at 71. Impinj's damages expert, Laura Kindler, opined that "applications that require FastID (or EPC and TID) are rare, that currently Impinj is unaware of any deployments in the field that rely on FastID, and that FastID is not a feature that drives demand for Impinj's Accused UHF RFID ICs." Dkt. # 287-11 at 64; *see also id.* at 80 (describing real-world applications of the FastID protocol as "exceedingly rare"). Drawing all reasonable inferences in Impinj's favor, a jury could conclude that consumers would have accepted a product without the accused FastID feature. *See Apple, Inc. v. Samsung Elecs. Co.*, No. 11-CV-01846-LHK, 2013 WL 5958178, at *3 (N.D. Cal. Nov. 7, 2013) ("Whether any given noninfringing alternative is an *acceptable* substitute for the patented product is a question of fact that the jury . . . will have to decide.").

Impinj also points to the popularity of other products that lack the accused EPC+TID feature to show that consumers would accept a product without the FastID inventorization feature. Dkt. # 319 at 26 & n.7. For example, Impinj notes that NXP produces a "UCODE 9"

product that "removed the EPC+TID feature." Dkt. ## 286-11 at 61, 297-2 at 44. But the UCODE 9 product is nevertheless popular. *See, e.g.*, Dkt. # 297-10 at 3 (noting that 85% of one of NXP's largest customers purchases UCODE 9 products lacking the EPC+TID feature); Dkt. # 287-11 at 80 (Kindler stating that "the UCODE 9 product has achieved commercial success despite the removal of the EPC+TID feature"). Drawing all reasonable inferences in Impinj's favor, a reasonable jury could conclude that a product without the accused EPC+TID feature would be acceptable to consumers. *See Apple,* 2013 WL 5958178, at *3.

Finally, there is at least a dispute of material fact as to whether this non-infringing alternative—involving separate transmission of the EPC and TID data—was "available" to Impinj. To be sure, it does not seem that Impinj produced a non-infringing alternative during the relevant damages period. But this alternative method was apparently well known in the field. For example, Impinj's literature suggests that its FastID protocol improved upon the known, Gen2-compliant method in which EPC data is transmitted separately from TID data. Dkt. # 283-8 at 2. And the '092 Patent states that widely known methods disclose sequential transmission of data. '092 Patent at 1:20–22. Accordingly, a reasonable jury could conclude that Impinj, a leading RFID manufacturer, could have produced an RFID chip using these known methods.

C. '097 Patent Non-Infringing Alternatives

NXP argues that Impinj has failed to demonstrate a genuine issue of fact as to whether an acceptable, non-infringing alternative to the '097 Patent was available to Impinj. Dkt. # 282 at 28. The Court disagrees.

Impinj has demonstrated a dispute of fact sufficient to survive summary judgment. Impinj's expert (Laura Kindler) opined that "removing the charge pump would result in a non-infringing design, and that this design was known for decades and is commonly used in the market," and such an alternative "would be acceptable to many (if not all) customers, particularly

given the other important features that are important to customers and drive demand for the Accused Products."[13] Dkt. # 287-11 at 80. Dr. Kenney also opined that several of NXP's products—like the "UCODE 7" product—are commercially successful despite not practicing the '097 Patent. Dkt. # 295-3 at 101. He also suggests that "it would be a noninfringing alternative to use memory that does not store values in capacitive memory." *Id.*

The Court recognizes that Impinj's explanation of the non-infringing alternatives to the '097 Patent is somewhat lacking in detail. The Court also recognizes that the non-infringing alternatives must not represent mere speculation about what products *might* be possible to produce. *See Grain Processing*, 185 F.3d at 1354 ("[S]ubstitutes only theoretically possible will not [suffice]."). Nevertheless, the Court concludes that a reasonable jury could find that there were acceptable non-infringing alternatives available to Impinj.

IV

CONCLUSION

For the reasons above, the Court:

(1) GRANTS in part and DENIES in part Impinj's motion to exclude certain opinions of David A. Haas (Dkt. # 296); and

(2) DENIES NXP's partial summary judgment motion as to the damages issue (Dkt. # 282 at 27–29).

[13] To be sure, some of Impinj's arguments lose force due to the Court's alteration to its construction of the "voltage-raising means" term. For example, it may not matter if "there are several other ways to raise the voltage without using a charge pump or float-based structure" because the term is no longer limited to those structures. *See* Dkt. # 287-11 at 80. But the Court still concludes that Impinj has shown the existence of a question of fact suitable for resolution by the jury.

Dated this 4th day of May, 2023.

John H. Chun
United States District Judge